WHAT IS CLAIMED IS:

1. A tube structure of a multitublar heat exchanger comprising:

a tube;

a plurality of beads protruding from an inner face of the tube,

wherein the beads are arranged at a predetermined pitch in an axial direction of the tube.

2. The tube structure of a multitubular heat exchanger according to claim 1, wherein a circumference of the tube is divided at least into thirds, and the beads are aligned in a circumferential direction of the tube.

3. The tube structure of a multitubular heat exchanger according to claim 2, wherein the beads aligned in the circumferential direction of the tube are provided at plural rows at the predetermined pitch in the axial direction of the tube, and the beads adjoining in the axial direction are shifted by substantially a half of a circumferential length of the bead to one another.

4. The tube structure of a multitubular heat exchanger according to claim 2, wherein the circumference of the tube is divided into parts of an even number of four or more, and the beads are aligned in the circumferential direction so as to be alternately formed in the parts of the circumference.

5. The tube structure of a multitubular heat exchanger according to claim 2, wherein the beads are inclined by an angle of not more than 45° with respect to the circumferential direction of the tube.

6. The tube structure of a multitubular heat exchanger according to claim 1, wherein a bead height e with respect to an inner diameter D of the tube is set at e = 0.05D to 0.2D and a bead pitch P with respect to the bead height e is set at P = 6e to 25e.

7. The tube structure of a multitublar heat exchanger according to claim 6, wherein the inner diameter D is 5 to 30 mm.

8. The tube structure of a multitubular heat exchanger according to claim 2, wherein inclinations of the beads which are adjacent to each other in the circumferential direction, are made to be opposite.

9. A tube structure of a multitubular heat exchanger comprising:

a tube, an inner surface of which is divided into parts of an even number of four or more; and

beads aligned along the axial direction at a predetermined pitch in each part of the inner face,

wherein the beads are alternately arranged in the adjacent parts of the inner face of the tube.

10. The tube structure of a multitubular heat exchanger according to claim 9, wherein the beads are inclined by an angle of not more than 45° with respect to the circumferential direction of the tube.

11. The tube structure of a multitubular heat exchanger according to claim 9, wherein inclinations of the beads, which are adjacent to each other in the circumferential direction of the tube, with respect to the circumferential direction are made to be opposite.

12. The tube structure of a multitubular heat exchanger according to claim 9, wherein a bead height e with respect to an inner diameter D of the tube is set at e = 0.05D to 0.2D, and a bead pitch P with respect to the bead height e is set at P = 6e to 25e.

13. The tube structure of a multitubular heat exchanger according to claim 12, wherein the inner diameter D is 5 to 30 mm.

14. The tube structure of a multitubular heat exchanger according to claim 9, wherein the beads are alternately aligned along the axial direction at substantially a half of the predetermined pitch.

15. A multitubular heat exchanger including a plurality of heat transfer tubes, through which a heat medium passes for a heat change, each transfer tube comprising:

a tube, an inner surface of which is divided into parts of an even number of four or more; and

beads aligned along the axial direction at a predetermined pitch in each part of the inner face,

wherein the beads are alternately arranged in the adjacent parts of the inner face of the tube.

16. The multitubular heat exchanger according to claim 15, wherein the beads are inclined by an angle of not more than 45° with respect to a circumferential direction of the tube.

17. The multitubular heat exchanger according to claim 15, wherein inclinations of the beads, which are adjacent to each other in the circumferential direction of the tube, with respect to the circumferential direction are made to be opposite.

18. The multitubular heat exchanger according to claim 15, wherein a bead height e with respect to an inner diameter D of the tube is set at e = 0.05D to 0.2D, and a bead pitch P with respect to the bead height e is set at P = 6e to 25e.

19. The multitubular heat exchanger according to claim 15, wherein the inner diameter D is 5 to 30 mm.

20. The multitubular heat exchanger according to claim 19, wherein the beads are alternately aligned along the axial direction at substantially a half of the predetermined pitch.